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ART. XIV.—*Syphilitic Paralysis and its Treatment*. By WILLIAM MOORE, M.D., Dub.; M.R.I.A.; Fellow of the King and Queen's College of Physicians; Senior Physician to Mercer's Hospital; Physician in Ordinary to Sir P. Dun's Hospital, and to the Institution for Diseases of Children; Lecturer on Practice of Medicine, and on Clinical Medicine, &c.

Syphilis, Followed by Secondary Symptoms—Paraplegia—Hemiplegia—Epileptiform Convulsions, with and without Loss of Consciousness—Progressive Motor Ataxy.

The subject of nervous disorder supervening on syphilis has been treated of by various authors, among whom may be mentioned Drs. Graves, Todd, Brown-Séguard, Reade, Duncan, Hutchinson, Bryant, and others; but as these affections are daily receiving more attention the details of the following cases may not prove wholly uninteresting:—

CASE I.—*Syphilis, Followed by Sore Throat, Rheumatism, Cervico-dorsal Neuralgia, Paraplegia.*—Michael R., aged twenty-six, was admitted into Mercer's Hospital on the 6th of October, 1864.

His family history is as follows:—He had four sisters and one brother, who all died young; his mother is also dead, but his father is alive, and is a strong, healthy man.

This patient had been a waiter for the last twelve years, during which time he was very much addicted to drink, kept late hours, and was exposed to cold. About six years ago he contracted

syphilis, for which he took mercury freely; he afterwards had sore throat and syphilitic rheumatism—in short, from his first being infected his health has never been good. About three months before his admission into Mercer's Hospital he was seized with a severe pain in the nape of the neck and between his shoulder blades; for this he underwent some treatment which gave him temporary relief, but the pain returned, accompanied with shiverings. He now took Turkish baths, but obtained no relief. On the night of the 27th September he was seized with severe cramp in his right leg, and on the following day was unable to move it, and a sense of numbness extended over both legs.

On admission into hospital his appearance was anemic, and he complained of pain and weakness in the lumbar region, also of a pain and sense of tightness round the epigastrium. He had great difficulty in passing urine (which, however, had an acid reaction), and he was unable to turn himself in bed without being assisted. His appetite was fair, and he slept well.

He got five-grains doses of iodide of potassium, with one-sixteenth of a grain of strychnine, three times a day; electricity was applied along the course of the spine; at the end of a month he was able to run about the ward; and after ten days more he left the hospital, feeling able, as he said himself, "to attend a table of twenty."

CASE II.—*Syphilis, Followed by Secondary Symptoms—Iritis, Epileptiform Convulsions, with Loss of Consciousness, Hemiplegia.*^a—John D., aged forty, but looking ten years older, was admitted into Mercer's Hospital on the 7th November last. His history is as follows:—By occupation a gardener; he was a good deal exposed to wet; but in addition he had been in the habit of wading up to the waist when on fishing excursions. In 1860 he contracted syphilis, for which he took mercury freely, and at the same time his habits were intemperate; in 1861 he had syphilitic iritis, when he again got mercury. Two years ago he had an epileptiform attack, and remained unconscious for forty-eight hours; and within the last year an eruption appeared on his arms, forearms, thighs, and legs, which, judging from the cicatrices, I should say was rupia. On the night of the 3rd of May last he went to bed in his usual health, but on trying to dress himself the following morning he was seized with a loud buzzing in his ears, and fell down unconscious. From this

^a This case was reported by Mr. John Myles.

date he tried to follow his occupation till the week before his admission into the hospital, when he had another fit, on recovering from which the right side was found paralysed. None of his family were paralytic.

On examination there was complete hemiplegia of the right side of the body; there was blunting, but no absolute loss of sensibility. He had imperfection of speech, so much so as to be with difficulty understood; there was double vision and abnormal contraction of the pupils; his pulse was slow, labouring, and compressible; the urine was alkaline, and there was an involuntary passing of the dejections. On the 7th of November a blister was applied over the head from ear to ear, and he got six ounces of wine. The following day he seemed more himself, but still passed everything under him. He was now ordered five-grain doses of iodide of potassium, with *syp. of bark*.

On the 14th of November he was still passing involuntarily; the urine was alkaline, but he spoke more distinctly and had more command of himself generally. The left pupil was dilating, but the right remained minutely contracted. On the 20th the treatment was changed to bromide of potassium, seven grains three times a day. During the night of the 22nd he again had the "buzzing" noise in his head and pain in the cervical region, and on the 23rd he had an aborted epileptiform attack, with unconsciousness. On the 24th he was much more lively than he had been since his admission, and gave timely warning to the nurse: the bromide of potassium was increased to ten grains three times a day. On the 7th of December we went back to the iodide of potassium. He was now able to walk about the ward with the help of a stick, and in ten days more he left the hospital so far improved as to get up on a car unassisted. I may add, the right pupil remained contracted, which may have been due to the iritis he suffered from some years before.

In this case there was no evidence of the epileptiform attacks having been caused by meningeal irritation from diseased bone; they seem to have been induced by systemic causes—such as the syphilitic poison acting upon the nutrition in general, but on the brain in particular.

CASE III.—*Syphilis Followed by Eruption, Headache, Hemiplegia, Epileptiform Convulsions, without Loss of Consciousness.*—Esther D., aged twenty-four, was admitted into Mercer's Hospital

in the Spring of '62. She looked anxious and careworn, though of a full sanguineous habit of body. She stated that up to the period of her marriage, six years previous, she never had an hour's sickness, but from that time up till her admission she has been continually a sufferer. Shortly after marriage she contracted syphilis from her husband; then an eruption came all over body, attended with severe pains in all her joints, and excruciating headache. These symptoms continued, with short intermissions, till after the birth of her first and only child, which was born about a year after her marriage. She then sought advice, and was freely salivated. The eruption, pains, and headache were relieved for a short interval, till after fresh exposure to cold and hardship they returned, when she was again treated with mercury. About this time she got drooping of the left eyelid and strabismus of left eye, and she gradually lost power of the entire left half of the body. On admission into Mereer's Hospital she was in a most helpless condition, having been assisted to the ward by two persons. She literally had no power of the left half of the body, but there was no loss of sensation over the left side. She complained of great oppression, lassitude, and sense of weight in the back and loins, of continual headache and giddiness, of dimness of sight in both eyes; the bowels were constipated, and the menstrual function had totally disappeared for the past three years.

She got seven grains of iodide of potassium three times a day, with five grains of compound aloetic pill at bed-time. She was dry-cupped over the lumbar region, and took a hip-bath every night; her diet was liberal, but not stimulating. At the end of a fortnight she was able to walk into the garden of the hospital unassisted. At the end of a month all the distressing symptoms which she had suffered from on admission were abated, with the exception of an occasional headache, and she was meditating her departure, when, suddenly, at eleven o'clock at night of the 25th March, she was seized with twitching and convulsive movements in her extremities. She complained of intense headache, and vomited. These symptoms continued, with brief intermissions, till the time of the morning visit, when she was found to be weak and prostrate in the extreme.

Ice and refrigerating lotions were applied to her head, whilst restoratives were used to the extremities. She got wine in small quantities, often repeated, and beef-tea freely. In the course of twenty-four hours all the convulsive movements disappeared; the

iodide of potassium was resumed, she gradually improved, and on the 26th of April she left the hospital, still feeling weak, but the power of the left side of the body being completely restored.

CASE IV.—Repeated Syphilitic Attacks, Followed by Secondary Symptoms—Rheumatism, Occasional Diplopia, Opisthotonos, Loss of Muscular Control, Progressive Motor Ataxy.^a

G. M., aged 48, was admitted into Mercer's Hospital on the 1st June, 1865. The following is his family history:—His father died of apoplexy, at seventy-two, and he had two sisters and one brother, who died of phthisis. In the year 1839 he contracted syphilis, for which he got mercury. About a year after, he again got primary sores, followed by a bubo, and again took mercury, and afterwards iodide of potassium. Despite of this treatment he got secondary symptoms (in the form of eruption) which disappeared under treatment. He remained in good health for about a year, when the eruption again appeared, and he then consulted the late Sir Philip Crampton, who treated him with mercurial inunction; he also took mercury, in addition, for about a month continually, but was not salivated. At this time his habits were bad, and he led a most irregular life for some months.

In 1846 he got pneumonia, from which he states that he recovered perfectly, and he continued in good health up till 1852, when he suffered from rheumatic pains over the whole body. About this time he noticed his eyesight to be first affected; when looking at an object it quivered and dazzled before him; he complained of a sensation as if something was creeping over his body, and he occasionally heard a noise as if sticks were rattling over his head and shoulders. By degrees he observed his legs begin to fail him, and he could not walk without a stick; later still, on attempting to stand up, or hold himself erect, he would have fallen backwards. He had inordinate desire for sexual intercourse, which he was able to accomplish. In this condition he continued for some years, gradually getting worse, with large abscesses forming over the gluteal region, till his admission into hospital.

On examination the following symptoms were elicited:—He complained of inability to walk or hold himself erect, owing to the tendency to fall backwards—in fact, he could only stand semi-erect, and even then only by holding steadily by some fixed point, else he

^a This case was reported by Mr. J. Myles, Clinical Clerk.

would have been drawn backwards. He complained of a sensation as if nails were driven into his hands and arms, feet and ankles. At times he seemed to have double strabismus; at other times the eyes were natural. Often he could see an object looking straight before him distinctly with both eyes; at other times unless he looked askant he could see nothing; but under any circumstances he saw best with the left eye. At night, if he looked at the gas with one eye open, the light appeared bright red, and if he looked with the eye previously closed the gas seemed nearly colourless. He was slightly deaf on the right side, and occasionally he faltered in his talk, but he had no drowsy or slow mode of speech. His bowels were costive: he had desire for frequent micturition, still the urine was acid and free from albumen; there was decided anesthesia over the soles of both feet. He was ordered to take fifteen grains of bromide of potassium three times a day, and he was rubbed over the course of the spine with a liniment composed of camphor-liniment and chloroform.

On June the 20th the following was his condition:—He was able to stand, but still had the tendency to opisthotonos. Before attempting to walk (which he did with the aid of two sticks) he rested on a chair, then started slowly and apparently with trepidation. However, his pace soon seemed to increase as if in spite of himself, and his legs were thrust forward in various directions, the feet coming down with a flap (usually with the heels first), and he extended his arms in a circuitous manner; at times he would lose his balance if not watched. He seemed to have power to move his extremities, but not to control the movements, and in this respect differed from the dragging and manifest loss of muscular action of the "paraplegic." He complained less of the sensation of nails pricking him, and was generally improved. One-sixteenth of a grain of strychnine was now given, with the fifteen grains of the bromide of potassium three times a day, and electricity was applied along the spine. After a few days the strychnine was omitted, and the only variation in the treatment for the space of three months was the occasional substitution of the iodide for the bromide of potassium.

On the 1st of December last he could stand as erect as he ever did, and could walk five or six miles during the course of the day; still if you directed him to shut his eyes and place his heels together he would reel and fall backwards; he objected to stand for any length of time; his eyesight was more equable, but still failed him if he

overtaxed it in the least degree; there was no inequality of the pupils. In his walk he still showed want of control or co-ordination; his knees occasionally took various directions, and his feet inclined towards the ground with a flap, the heels first; and he remarked that the heel of the left boot was much sooner worn than that of the right.

I have been thus minute in the details of this case, inasmuch as this is a form of paralysis which at present is engaging no little attention. M. Duchenne, who has given this malady his special study, divides it into three stages:—The first, in which the patient suffers from paralysis, often temporary only, of one or other of the motor nerves of the eye; from some degree of amaurosis, usually accompanied by unequal pupils, and from erratic, boring pains. In the second stage, in addition to the above symptoms, the characteristic unsteadiness of gait begins to show itself, together with diminished sensibility to touch, and pain in the skin of the lower part of the legs, in the skin of the soles of the feet especially. The interval between the first and second stages varies from a few months to several years.

In the third stage the malady becomes more profound and general, the disorders in the involuntary, co-ordinate movements increase and extend, the anesthesia increases in the parts first affected, and extends to other parts, not of the skin only, but even to the muscles and joints.

In the case I have detailed the rheumatic pains were first complained of, then paralysis of the sixth nerve seemed to follow; but as there is no inequality of the pupils for so far, I infer the third pair are intact; then followed the incontinence of urine and satyriasis, the occurrence of the general paralysis being a question of some years later.

Bourdon (*Archiv. Gener.*, Nov., 1861) inclines to the belief that congestion of the spinal ganglia is the starting-point of this affection, the morbid changes being subsequently propagated to the posterior roots and posterior columns; and Chareot, Vulpian, and Dumesnil all found atrophy of the posterior columns and roots of the spinal cord.—Schmidt, *Jahrb.*, Vol. CXIV. and CXVI.

The diseases with which this form of paralysis is likely to be confounded are “diseases of the cerebellum,” general paralysis of the insane, paralysis from lead poisoning, and chorea.

Now the question may arise, why should this case come under the denomination of syphilitic paralysis? Well, in the first place, there is nothing in the family history to point to its being

hereditary further than the vague statement that the patient's father died of apoplexy at seventy-two. On the other hand, we must give due weight to the severe "sieges" of syphilis which this patient admits he suffered, and the amount of mercury he took from time to time, his habits being at the same time most irregular. Then we have a *post hoc* argument in the improvement which was brought about by a purely anti-syphilitic line of treatment; and what still further would tend to confirm the opinion as to the syphilitic character of the affection is the fact that Duchenne enumerates *syphilis* as one of the exciting causes of this malady, the others being *cold* and *masturbation*.

In the first, second, and third cases I think the syphilitic attacks were the most rational exciting causes of the nervous disorders; at the same time I do not consider every paralytic condition should be attributed to syphilis, because the patient may have suffered from syphilis in an aggravated form; still if the individual had never suffered from nervous affections of any kind, and if the paralytic symptoms occurred without any other appreciable exciting cause—and further, if their occurrence fell within the period in which the syphilitic dyscrasia generates such affections, the *fons et origo mali* may safely be termed syphilitic.

D. A. Zambaco^a concludes that every functional disturbance of the nervous system may be caused by syphilis, such as chorea, hysteria, epilepsy, insanity, paralysis of sensation and motion, neuralgia, and affections of the organs of sense.

Dr. Thomas Reade, in a very instructive paper on "Syphilitic Meningitis" (*Dub. Quart. Jour.*, Vol. XIII.), concludes that a single symptom of cerebral disturbance, such as some form of mental disorder, may alone indicate the organic mischief in progress: a cachetic countenance may excite suspicion of its nature; but a close investigation of the previous history of the patient's diseases and symptoms are required to affix its true character.

Zambaco holds that we must look still farther back, inasmuch as we meet with such affections in patients who have never contracted syphilis in a primary form; and hence the taint may be hereditary. Under any circumstances it is quite clear that, apart from any existing symptoms of the diathesis, and from the most attentive observation of the character of the nervous affections present, a most careful *résumé* of the family history is indispensable in arriving

^a On Syphilitic Nervous Affections. Paris: J. B. Baillière. 1862.

at a correct conclusion as to the origin of many of these obscure cases.

With respect to the treatment employed in the above cases, it may be said to have been confined to the use of two agents, viz., bromide and iodide of potassium. Many practitioners in such cases recommend the free use of mercury.

Dr. Dunean, in his paper on Syphilitic Insanity and Epilepsy (*Dub. Quart. Jour.*, Feb., 1863), recommends us to employ mercury without hesitation in the presence of any obvious signs of venereal action, or even whenever the previous history of the patient suggests a probable ground for supposing that such a condition may exist in a latent form; and Dr. Reade, whose paper I have already referred to, says the employment of mercury in this late stage of syphilis is unattended with those formidable consequences of which we are so strongly forewarned as forbidding its use. For my own part, if such an amount of dyscrasia or evidence of broken-down constitution, so to speak, did not exist in the cases I have detailed, I should have been inclined to give mercury a trial, but then it would have been in the form of the biniodide or corrosive sublimate in bark; but where the lineaments of rupia are present, or other such signs of constitutional break-up, I think it is better to employ the iodide or bromide of potassium, or the iodide of sodium, gold, or arsenic. Without doubt, in cases of syphilitic epilepsy, I should trust to the iodide or bromide of potassium, and such is the experience of Wilkes,^a Murchison, and others, more especially with respect to the iodide.

As regards the more special treatment of the progressive motor ataxy, Vidal (*Gaz. des Hôpit.*, 1862), Duguet (*L'Union*, 1862), Herschell (*Bull. de Therap.*, 1862), and Wunderlich (*Arch. de Heilk.*, 1863), all speak of the efficacy of the nitrate of silver in progressive spinal paralysis; but Brown-Séquard, whilst admitting its value in affections of the spinal cord, where no inflammation exists, goes on to say, that in progressive muscular ataxy the treatment must vary with the peculiar symptoms of the disease with which it may be associated. Hence in the case above mentioned, believing it to have its origin in a syphilitic taint, I adopted anti-syphilitic remedies, and for so far with the most satisfactory results.

^a Medical Times and Gazette, Jan., 1862.

